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| Application Number     | 10/635,720               |
| Filing Date            | August 6, 2003           |
| First Named Inventor   | Shinichiro KAWANO et al. |
| Art Unit               | 2834                     |
| Examiner Name          | Jones, Judson            |
| Attorney Docket Number | MATS:027A                |

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|-----------------------|--------------------|
| Examiner<br>Signature | Date<br>Considered |
|-----------------------|--------------------|

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PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031  
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| Substitute for form 1449/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br><i>(Use as many sheets as necessary)</i> |   | <b>Complete If Known</b> |                          |                        |           |
|  |   | Application Number       | Shinichiro KAWANO et     |                        |           |
|  |   | Filing Date              | August 6, 2003           |                        |           |
|  |   | First Named Inventor     | Shinichiro KAWANO et al. |                        |           |
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|  |   | Examiner Name            | Jones, Judson            |                        |           |
| Sheet  | 2 | of                       | 2                        | Attorney Docket Number | MATS:027A |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials*              | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                                 | C                     | Relevant portion of the Supplementary European Search Report  |                |
|                                 |                       |   |                |
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EP 228.1 (2)

## EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 62296758  
PUBLICATION DATE : 24-12-87

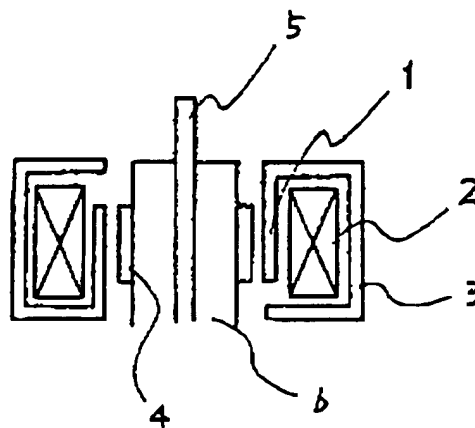
APPLICATION DATE : 13-06-86  
APPLICATION NUMBER : 61137616

APPLICANT : SEIKO EPSON CORP;

INVENTOR : TOMITA TADAHARU;

INT.CL. : H02K 37/00 H02K 1/02

TITLE : STEP MOTOR



**ABSTRACT :** **PURPOSE:** To improve effective permeability in a high frequency domain by using a composite material consisting of powder ferromagnetic material, resin and so on for a sinking comb and a yoke.

**CONSTITUTION:** Atomized iron powder of average particle diameter  $200\mu$  is treated by silane coupling, dried and heated to improve its adhesion, and thereafter kneaded with 10 volume percent epoxy resin to be granulated into particles of diameter 0.2–1mm. These granules are packed into a press die for pressing after their removal from the die, cured at  $150^{\circ}\text{C}$  to be assembled into a sinking comb 1 and a yoke 3. A thickness of plate material of the sinking comb 1 and yoke 3 used in a PM-type step motor is 1mm or thereabout and said plate is composed of powder composite material of diameter about 0.1mm. As a result, an eddy current loss can be reduced to to about  $10^{-5}$  of the former one.

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Patentamt

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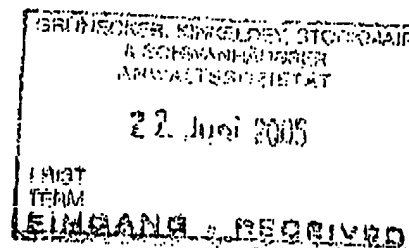
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Datum/Date

22.06.05

Zeichen/Ref./Réf.

EP20281-50/kg

Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°.

00917295.8-1528-JP0002382

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent  
Office

# SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application Number  
EP 00 91 7295

| DOCUMENTS CONSIDERED TO BE RELEVANT   |  |   |  |
|---|--|---|--|
| Category  | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim                               | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| ① X   | US 5 751 075 A (KWON ET AL)<br>12 May 1998 (1998-05-12)<br>* column 2, line 59 - column 3, line 5 *<br>* figures 1A-5 *  | 1-17  | H02K33/16                                    |
| ② X   | PATENT ABSTRACTS OF JAPAN<br>vol. 012, no. 196 (E-618),<br>7 June 1988 (1988-06-07)<br>& JP 62 296758 A (SEIKO EPSON CORP),<br>24 December 1987 (1987-12-24)<br>* abstract * | 18  |  |
|   |  |   | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
|   |  |   | H02K   |
| The supplementary search report has been based on the last set of claims valid and available at the start of the search.  |  |   |  |
| Place of search<br>Berlin   |  | Date of completion of the search<br>9 June 2005 | Examiner<br>Foussier, P                      |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |  |   |  |

# ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 00 91 7295

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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09-06-2005

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---|---------------------|----------------------------|---------------------|
| US 5751075                                | A | 12-05-1998          | KR 206762 B1               | 01-07-1999          |
|   |   |                     | BR 9605555 A               | 18-08-1998          |
|   |   |                     | CN 1156917 A ,C            | 13-08-1997          |
|   |   |                     | IT MI962337 A1             | 12-05-1998          |
|   |   |                     | JP 2796529 B2              | 10-09-1998          |
|   |   |                     | JP 9172764 A               | 30-06-1997          |
| JP 62296758                               | A | 24-12-1987          | NONE                       |                     |